



# STATE FOREST NOTES

Office of the State Forester  
Sacramento

No. 52

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## CALIFORNIA CONE CROP FOR 1973<sup>1/</sup>

Cone crop surveys were made in June and early July 1973. One hundred forty-eight report forms were received from field stations. A summary of the information indicates a light (3.0 rating) overall crop (table 1).

No average heavy (5.0 rating) crops were reported for any species statewide. Digger pine, Port-Orford-cedar, and California juniper were reported to have medium (4.0 rating) crops. However, reports on these species were limited.

## SOURCE IDENTIFIED SEED

Pseudotsuga menziesii

Lot 923

5 Lbs.

Seed Zone 092.25

"California Source Identified forest tree seed is produced under regulations of the California Crop Improvement Assn., a non insured non profit corporation recognized as an official seed certifying agency by the laws of California. It is not a marketing agency and makes no representations or warranties concerning the sale of certified seed. This label when officially authorized for use on a container of seed is evidence of certification."

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MEMBER OF ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

Fig. 1. Example of Source Identified Seed Certification Tag.

<sup>1/</sup> This report was compiled by C. J. Eden, Forester II, California Division of Forestry, Supervisor and Reforestation & Nursery Specialist at the Davis Headquarters Nursery.

Average heavy (5.0 rating) cone crops were reported for only two species in specific zones as follows:

<u>Species</u>	<u>Zone</u>
Knobcone pine	303
Douglas-fir	093 (4.7)

Medium (4.0) rating was reported for the following species and zones:

<u>Species</u>	<u>Zone</u>
White fir	092, 533
Red fir	532, 533
Sitka spruce	092, 093
Knobcone pine	091, 301, 390
Beach pine	092, 093 <sup>a/</sup> (4.5) 390 <sup>a/</sup>
Coulter pine	998
Sugar pine	303, 390, 522 (4.3)
Western white pine	092 (4.5)
Bishop pine	092
Monterey pine	092 <sup>a/</sup> , 093 <sup>a/</sup> , 097, 390 <sup>a/</sup>
Digger pine	303
Douglas-fir	092, 371, 390 (4.5)
Monterey cypress	091 <sup>a/</sup> , 092 <sup>a/</sup> , 390 <sup>a/</sup>
Port Orford-cedar	091, 092, 093, 303 (4.5)
California juniper	994

<sup>a/</sup> Plantation

### Cone Reporting System

Annual cone crop data are compiled from reporting forms completed by California Division of Forestry and U. S. Forest Service, Region 5, personnel. Report forms are submitted from Division field units for each State Forest and forested county, and from each Ranger District of the Forest Service.

Fowells and Schubert<sup>2/</sup> showed that most cones are borne on dominant and codominant trees. Dominant trees, 12 or more inches diameter breast height (d.b.h.) were selected as indicator trees for a cone

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<sup>2/</sup> Fowells, H. A., and G. H. Schubert. 1956. Seed crops of forest trees in the pine region of California. U. S. Dept. of Agr. Tech. Bul. 1150. 48 pp. illus.

rating system devised in 1960 by the Pacific Southwest Forest and Range Experiment Station and California Region of the Forest Service. Ratings are based on ocular estimates of cone quantities. The following five classes are used:

1. None - no cones on any seed trees.
2. Very light - few cones on less than one-fourth of the seed trees.
3. Light - few cones on more than one-fourth of the seed trees.
4. Medium - many cones on one-fourth to one-half of the seed trees.
5. Heavy - many cones on more than one-half of the seed trees.

#### Cone Collection Areas

Cone crops are reported from eighty-seven tree seed zones in California<sup>3/</sup>. An attached map outlines the zones. Larger scale (1:1,000,000) maps and an explanatory publication may be obtained free of charge from the office of the State Forester, Resources Building, 1416 Ninth Street, Sacramento, California 95814, or Regional Forester, U. S. Forest Service, 630 Sansome Street, San Francisco, California 94111. A universal identification coding system for seed lots is detailed in the explanatory publications.

#### Seed Certification

A voluntary program for certification of the source of collection for seed has been formulated for California. The California Crop Improvement Association is the Certifying Agency. Inspection for compliance is administered by the County Agricultural Commissioners. A committee representing U. S. Forest Service, California Division of Forestry, California Department of Agriculture, Extension Service, forest industry, and seedsmen will provide advisory services.

During the 1971 collection year the program operated in Del Norte, Humboldt, and Mendocino counties. A few private companies and California Division of Forestry collected or bought cones under the program. In 1972 the program was to be expanded to Shasta, Siskiyou, Lassen and Modoc counties. However, no cones were collected under this program in 1972 because of the extremely poor cone crop. A tag certifying the seed came from the reported source is affixed to each lot of seed shipped (fig. 1).

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<sup>3/</sup> Buck, John M., Ronald S. Adams, Jerold B. Cone, M. Thompson Conkle, William J. Libby, Cecil J. Eden, & Michael J. Knight 1970. California Tree Seed Zones. California Region U. S. For. Ser., and State of Calif., The Res. Agency, Dept. of Cons., Div. of For., 6 pp.

Table 1. Summary of California cone crops for 1973, by species and tree seed zone.

Species	Tree Seed Zone	Average Rating <sup>a/</sup>	Species	Tree Seed Zone	Average Rating <sup>a/</sup>
<u>Abies concolor</u> (white fir)	092	4.0	<u>Abies magnifica</u> (red fir)	531	3.5
	301	3.0	Continued	532	4.0
	302	2.8		533	4.0
	303	2.4		534	2.0
	312	2.7	Overall	732	3.0
	322	2.0	Rating 2.7	741	1.6
	371	2.0		742	2.0
	372	2.6		771	3.0
	516	2.0		772	3.3
	521	2.8	<u>Chamaecyparis</u> <u>lawsoniana</u>		
	522	1.7	(Port-Orford	091	4.0
	524	3.0	cedar)	092	4.0
	525	3.3		093	4.0
	526	2.7	Overall	303	4.5
Overall	531	3.5	rating 4.1		
rating 2.7	532	3.0	<u>Cupressus</u> <u>macrocarpus</u>		
	533	4.0	(Monterey	091 <sup>b/</sup>	4.0
	534	2.0	cypress)	092 <sup>b/</sup>	4.0
	731	2.0		093 <sup>b/</sup>	3.5
	732	2.9	Overall	390 <sup>b/</sup>	4.0
	741	2.0	rating 3.9		
	742	2.0	<u>Juniperus</u> <u>californica</u>		
	751	2.0	(California	994	4.0
	752	2.0	juniper)		
	994	2.8	<u>Libocedrus</u> <u>decurrens</u>		
	997	2.5	(incense-cedar)	093	1.5
	998	3.0		302	2.3
<u>Abies grandis</u> (lowland white fir)	091	2.0		303	2.0
	092	2.0		340	2.5
	093	2.0		372	2.0
Overall	094	2.0	Overall	380	2.0
rating 1.9	390	1.5	rating 1.7	516	1.0
<u>Abies magnifica</u> (red fir)	302	2.0		521	1.3
	372	1.0		522	1.3
	521	1.0			
	523	1.0			
	524	3.0			
	525	3.0			
	526	2.5			

<sup>a/</sup> See footnote at end of table.  
<sup>b/</sup> Plantation

Species	Tree Seed Zone	Average Rating <sup>a/</sup>	Species	Tree Seed Zone	Average Rating <sup>a/</sup>
<u>Libocedrus</u> <u>decurrens</u> (incense-cedar)	523	2.0	<u>Pinus coulteri</u> (Coulter pine)	994	2.7
Continued	526	1.0		997	2.0
	531	2.0	Overall	998	4.0
	532	1.0	rating 3.0		
	533	1.0			
	534	2.0	<u>Pinus jeffreyi</u> (Jeffrey pine)	093	2.0
	731	2.0		302	2.0
	732	1.8		303	1.0
	741	1.0		312	1.0
	742	1.0		390	3.0
	994	2.2		516	1.0
	998	3.0		521	1.0
				522	1.0
<u>Picea sitchensis</u> (Sitka spruce)	091	3.0		523	2.5
	092	4.0	Overall	524	2.0
	093	4.0	rating 1.8	525	1.3
Overall	094	1.0		526	1.3
rating 3.1	390	3.5		531	2.0
				532	1.3
<u>Pinus attenuata</u> (knobcone pine)	091	4.0		533	2.3
	301	4.0		534	3.0
	303	5.0		731	2.0
	331	3.0		732	2.5
Overall	332	3.0		741	1.0
rating 3.8	390	4.0		742	1.3
				751	2.0
<u>Pinus contorta</u> <u>var. contorta</u> (beach pine)	091	3.0		752	3.0
	092	4.0		772	2.7
	093 <sup>b/</sup>	4.5		792	1.4
Overall	094	3.0		992	1.0
rating 3.4	095	2.0		994	2.9
	390 <sup>b/</sup>	4.0	<u>Pinus lambertiana</u> (sugar pine)	997	2.0
				091	2.7
<u>Pinus contorta</u> <u>var. latifolia</u> (lodgepole pine)	732	3.0		095	2.0
				301	3.3
				302	3.0
				303	4.0
				312	3.2

<sup>a/</sup> See footnote at end of table.

<sup>b/</sup> Plantation

Species	Tree Seed Zone	Average Rating <sup>a/</sup>	Species	Tree Seed Zone	Average Rating <sup>a/</sup>
<u>Pinus lambertiana</u> (sugar pine)	322	2.0	<u>Pinus muricata</u> (Bishop pine)	096	3.0
Continued	331	3.0	Continued	301 <sup>b/</sup>	3.0
	332	3.3		340 <sup>b/</sup>	3.0
	340	2.5		390 <sup>b/</sup>	3.0
	371	3.3			
	372	2.6			
Overall	380	3.0	<u>Pinus ponderosa</u> (ponderosa pine)		
rating 2.9	390	4.0		091	2.3
	516	2.0		092	1.0
	521	2.4		097	3.0
	522	4.3		301	2.5
	524	3.0		302	2.5
	525	3.3		303	2.7
	526	3.7		312	1.4
	531	3.0		331	3.0
	532	2.0		332	3.0
	533	3.0		340	2.6
	534	2.0	Overall	351	2.0
	732	3.1	rating 2.2	352	2.0
	741	2.3		360	2.0
	742	2.5		371	1.3
	992	1.0		372	1.8
	994	3.2		380	2.7
	997	1.8		516	1.0
				521	2.8
<u>Pinus monophylla</u> (singleleaf pinyon pine)	994	2.0		522	2.3
				523	1.5
				524	2.0
				525	2.6
				526	2.3
<u>Pinus monticola</u> (western white pine)	092	4.5		531	2.7
	301	3.3		532	1.7
Overall	302	3.3		533	2.5
rating 3.5				534	3.0
				731	2.3
				732	2.0
				741	1.0
				742	1.3
<u>Pinus muricata</u> (Bishop pine)	091 <sup>b/</sup>	3.0		751	2.0
	092	4.0		771	2.0
	093 <sup>b/</sup>	3.5		994	2.1
Overall	094	3.0		998	1.5
rating 3.0	095	2.5			

<sup>a/</sup> See footnote at end of table.

<sup>b/</sup> Plantation

Species	Tree Seed Zones	Average Rating <sup>a/</sup>	Species	Tree Seed Zones	Average Rating <sup>a/</sup>
<u>Pinus radiata</u> (Monterey pine)	091 <sup>b/</sup>	3.0	<u>Sequoiadendron</u> <u>giganteum</u> (Sierra redwood)	532	2.0
	092 <sup>b/</sup>	4.0		534	3.0
	093 <sup>b/</sup>	4.0	Overall		
	097	4.0	rating 2.5		
Overall	301 <sup>b/</sup>	3.0			
rating 3.6	303 <sup>b/</sup>	3.0	<u>Sequoia semper-</u> <u>virens</u> (coast redwood)		
	340 <sup>b/</sup>	3.5		091	2.5
	390 <sup>b/</sup>	4.0		093	3.0
<u>Pinus sabiniana</u> (Digger pine)	303	4.0		094	2.0
<u>Pseudotsuga</u> <u>menziesii</u> (Douglas-fir)	091	3.3	Overall	095	3.0
	092	4.0	rating 2.6	096	3.0
	093	4.7		097	2.0
	094	3.0	<u>Thuja plicata</u> (western red cedar)	091	2.5
	095	2.8	Overall	092	3.0
	096	2.5	rating 2.9	093	3.0
	097	2.0		390	3.0
	301	3.6	<u>Tsuga hetero-</u> <u>phylla</u> (western hemlock)		
	302	3.0		091	3.0
	303	3.1		092	3.0
	312	3.6	Overall	093	3.0
Overall	331	2.0	rating 2.7	094	2.0
rating 3.3	332	2.0		390	2.5
	340	3.0			
	351	2.0			
	352	2.0			
	360	2.5			
	371	4.0			
	372	3.8			
	380	2.2			
	390	4.5			
	516	2.0			
	521	3.1			
	522	3.7			
	523	3.5			
	524	2.0			
	525	3.8			
	526	2.4			
	531	2.5			
	732	3.4			
	741	1.0			
	742	1.5			

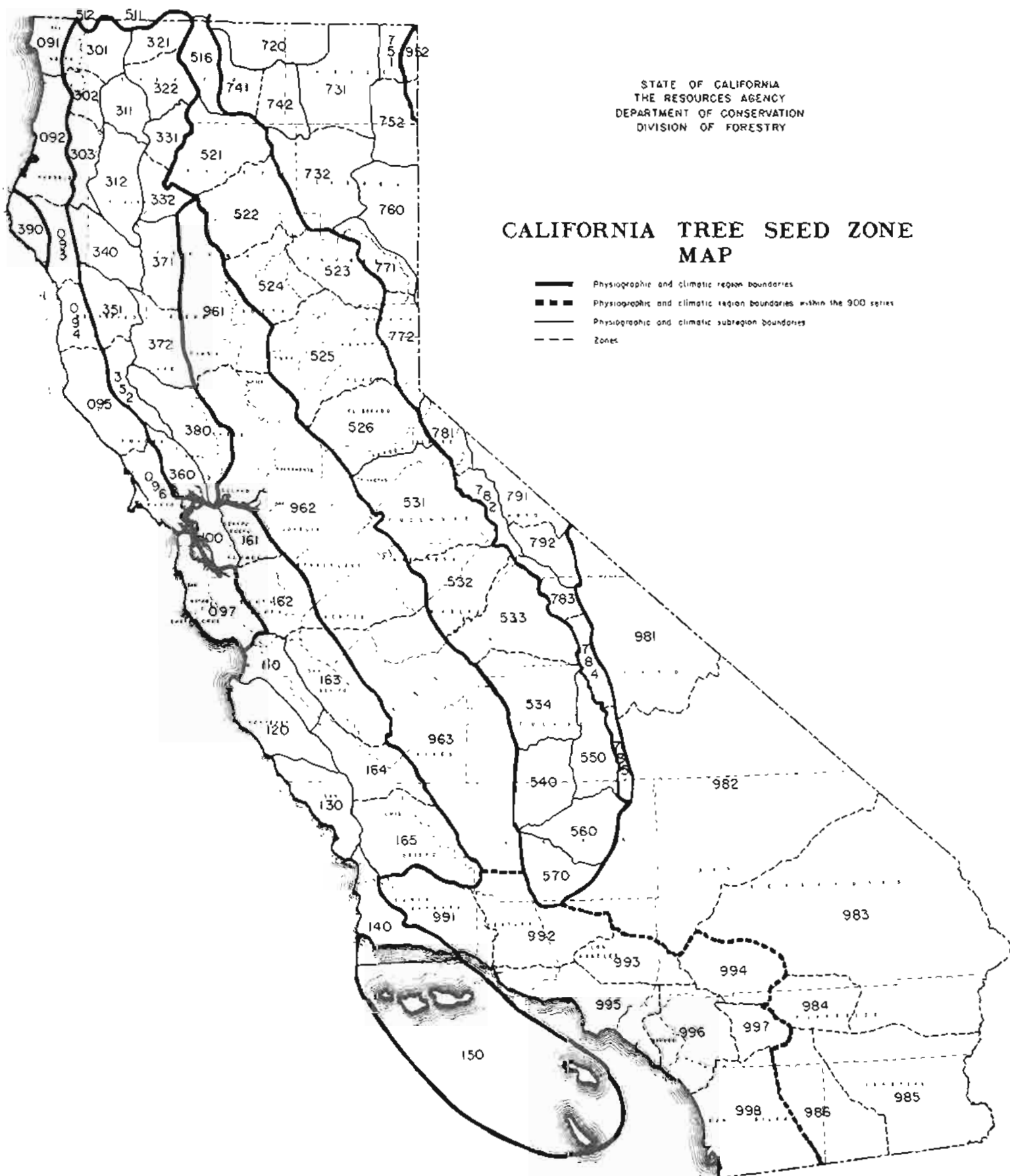
<sup>a/</sup> Based on numerical scale - 1,2,3,4, and 5 of crop rating system.

<sup>b/</sup> Plantation

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF CONSERVATION  
DIVISION OF FORESTRY

## CALIFORNIA TREE SEED ZONE MAP

- Physiographic and climatic region boundaries
- ■ ■ Physiographic and climatic region boundaries within the 900 series
- Physiographic and climatic subregion boundaries
- - - Zones





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